

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Kong et al.

Application No.: 10/717,826 Group No.: 2621

Filing Date: November 20, 2003 Examiner: D. Werner

Title: ERROR CONCEALING DECODING METHOD OF INTRAFRAMES OF COMPRESSED VIDEO

AMENDMENT

Dear Sir:

This Amendment is in response to a Non-Final Office Action dated April 9, 2007.

Amendments to the Specification

Please add the following section before paragraph [01]:

Related Application

This patent application is related to U.S. Patent Application No. 10/717,679, which was co-filed with this application on November 20, 2003, by Kung et al.

Please replace the Abstract of the Disclosure with the following:

A method conceals errors in an intra-frame infra-frame of compressed video. The intra-frame is decoded to multiple macroblocks. Each macroblock including pixels arranged in a rectangular array. A lost macroblock is identified during the decoding. Pixels along an outer boundary of the lost macroblock are concealed from nearest candidate pixels along outer boundaries of macroblocks immediately adjacent to the lost macroblock. All other pixels in the lost macroblock are concealed from nearest candidate pixels selected from previously concealed pixels in the lost macroblock.

Please replace paragraph [024] with the following:

[024] Figure 3 is a block diagram of ~~indexes~~ indexed motion vectors for error resilient encoding according to the invention;

Please replace paragraph [030] with the following:

[030] The decoding method operates in the spatial-domain on intra-frames. The method ~~restores~~ recursively restores pixels from previously concealed pixels in the same macroblock. This is contrasted with the prior art restoration from neighboring blocks.

Please replace paragraph [035] with the following:

[035] ~~Figures~~ Figure 2 shows the error resilient encoding method for generating the redundant information according to the invention.

Please replace paragraph [039] with the following:

[039] As shown in Figure 3, indices 1 to 8 are assigned 210 to a set of macroblocks near the current macroblock block 0 being processed. Here, ‘near’ means immediately adjacent macroblocks. Additional ‘near’ blocks can also be considered for indexing. For example, the next sixteen blocks

[[are]] shown dotted in Figure 3. These blocks are immediately adjacent to the above set of macroblocks 1-8. In this case, the set of near blocks has 24 macroblocks. The ‘near’ macroblocks can be selected in a number of different ways. The presumption is that the motion in ‘near’ macroblocks is probably like the motion in the current macroblock being processed.

Please replace paragraph [064] with the following:

[064] The median of the four candidate pixels is $(20+30)/2 = 15$.

Please replace paragraph [069] with the following:

[069] $p = (C_1/\text{Dist}_1 + C_2/\text{Dist}_2) / (1/\text{Dist}_1 + 1/\text{Dist}_2) =$
 $(15/1 + 20/1) / (1/1 + 1/1) = 18$, where p is an integer.

Please replace paragraph [071] with the following:

[071] When the number of the useful neighboring pixels is reduces reduced to two, the lost pixel is always interpolated by the two nearest error-free pixels without conditional rejection.